

Material Safety Data Sheet – Nitrous Oxide

1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION AND OF THE COMPANY

MSDS NR	: 093A
PRODUCT NAME	: Nitrous oxide
CHEMICAL FORMULA	: N ₂ O
COMPANY IDENTIFICATION	: See heading and/or footer
EMERGENCY PHONE NUMBER	: 603-207 89200

2. COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE / PREPARATION	: Substance
COMPONENTS / IMPURITIES	: Contains on other components or impurities, which will influence the classification of the product.
CAS NR	: 10024-97-2
EEC NR. (FROM EVINCES)	: 2330320

3. PHYSICAL AND CHEMICAL PROPERTIES

MOLECULAR WEIGHT	: 44
MELTING POINT	: -99.81 °C
BOILING POINT	: -88.5 °C
CRITICAL TEMPERATURE	: 36.4 °C
RELATIVE DENSITY, GAS	: 1.5 (air = 1)
RELATIVE DENSITY, LIQUID	: 1.2 (air = 1)
VAPOUR PRESSURE 20 °C	: 50.8 bar
SOLUBILITY MG/L WATER	: 2.2 mg/l
APPEARANCE / COLOR	: Colorless gas
ODOUR	: Sweetish. Poor are warning properties at high concentrations.
AUTOIGNITION TEMPERATURE	: Not applicable
FLAMMABILITY RANGE	: Oxidiser
OTHER DATA	: Gas / vapour heavier than air. May accumulate in confined spaces, particularly at below ground level.

4. FIRST AID MEASURES

INHALATION

In high concentration may cause asphyxiation. Symptoms may include loss of mobility / consciousness. Victim may not be aware of asphyxiation.

In low concentration may cause narcotic effects. Symptoms may include dizziness, headache, and nausea and lose of co-ordination.

Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

INGESTION

Ingestion is not considered a potential route of exposure

5. FIRE FIGHTING MEASURE

SPECIFIC HAZARDS	: Supports combustion. Exposure to fire may cause containers to rupture/explode. Non flammable.
HAZARDOUS COMBUSTION PRODUCTS	: If involved in a fire the flowing toxic and/or corrosive fumes may be produced by thermal decomposition.
093A	
Version: 1	
SUITABLE EXTINGUISHING MEDIA SPECIFIC METHODS	: All know extinguishants can be used : If possible, stop flow of product. Move container away or cool with water from a protected position.

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SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS : In confined space use self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS : Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Use self-contained breathing apparatus and chemically protective clothing. Ensure adequate air ventilation. Eliminate ignition sources.

ENVIRONMENTAL PRECAUTIONS : Try to stop release.

CLEAN UP METHODS : Ventilate area.

7. HANDLING AND STORAGE

HANDLING AND STORAGE

Use no oil or grease.

Segregate from flammable gases and other flammable materials in store. Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment, which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Keep away from ignition sources (including static discharges). Refer to supplier's container handling instruction. Keep container below 50 °C in a well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUE-TLV (ACGIH) : 50 PPM

PERSONAL PROTECTION : Do not smoke while handling product. Ensure adequate ventilation.

9. HAZARDS IDENTIFICATION

HAZARDS IDENTIFICATION : Liquefied gas. Oxidant. Strongly supports combustion. May react violently with combustible materials.

10. STABILITY AND REACTIVITY

STABILITY AND REACTIVITY : May react violently with combustible materials. Thermal decomposition yields toxic products, which can be corrosive in the presence of moisture. May react violently with reducing agents. Violently oxidises organic material.

11. TOXICOLOGICAL INFORMATION

GENERAL : No toxicological effects from this product

12. ECOLOGICAL INFORMATION

GENERAL : No ecological damages caused by this product

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13. DISPOSAL CONSIDERATIONS

GENERAL : To atmosphere in a well ventilated place. Discharged to atmosphere in large quantities should be avoided. Do not discharged into any place where its accumulation could be dangerous. Contact supplier if guidance is required.

14. TRANSPORT INFORMATION

UN NR : 1070
 CLASS / DIV : 2.2
 ADR / RID ITEM NR. : 2.5a
 ADR / RID HAZARD NR : 25
 TERRACED NR. : 233
 GROUPCARD NR : 20g16
 LABELING ADR : Label 05: Fire intensifying risk.
 Label 2: None flammable non toxic gas

OTHER TRANSPORT INFORMATION:

Avoid transport on vehicles where load space is not separated from the driver's compartment. Ensure vehicles driver is aware of the potential hazards of the load ensure vehicles driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers ensure that they are firmly secured and:

- Cylinder valve is closed and not leaking
- Valve outlet caps nuts or plug (where provided) is correctly fitted
- Valve protection device (where provided) is correctly fitted
- Adequate ventilation
- Compliance with applicable regulations

15. REGULATORY INFORMATION

NUMBER IN ANNEX 1 OF DIR 67 / 548: Not included in Annex 1
 EC CLASSIFICATION : Proposed by the industry.
 : O: R & A
 SYMBOLS : O: Oxidising
 R PHRASES : 8A, RAs
 S PHRASES : 9,17A
 LABELING OF CYLINDERS : SYMBOLS
 Road transport symbols are used and selected according to the most stringent product classification -EC or ADR.
 Label 05: Fire intensifying risk
 Label 2: None flammable non toxic gas
 RISK PHRASES : R8A strongly supports combustion. RAs Asphyxiate in high concentrations.
 SAFETY PHRASES : S9 Keep container in well ventilated place.
 S17A Keep away from combustible material uses no oil or grease.

16. OTHER INFORMATION

Ensure all national / local regulations are observed. Ensure operators understand the hazard of oxygen enrichment. Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Details given in this document are believed to be correct at the time of going to press. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.